 #14 DMT 4-21-03

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the application of: Johnson, Gary L.

Serial No.: 09/608890

Filed: June 30, 2000

For: *Method and Product for Regulating Cell Responsiveness to External Signals*

Attorney Docket No.: CPI-004DVCP3CN

Group Art Unit: 1646

Examiner: Basi, N. S.

Commissioner for Patents
Washington, D.C. 20231

CERTIFICATE OF FACSIMILE TRANSMISSION

I hereby certify that this correspondence is being facsimile transmitted to the Honorable Commissioner for Patents, Washington, D.C. 20231 on the date set forth below.

April 15, 2003
Date

Debra J. Mnasinclo, Esq., Reg No. 46,931

INFORMATION DISCLOSURE STATEMENT

Dear Sir:

Applicant and his Attorney are aware of the following patents, publications or other information, which are cited on the attached PTO Form 1449, and in accordance with 37 CFR §1.97 hereby submit these publications for the Examiner's consideration.

The present application is a Continuation Application of U.S. Serial No. 08/628829, filed April 5, 1996 (Atty. Docket No. CPI-004DVCP3). The majority of the references listed on the enclosed PTO Form 1449 have been previously cited by or submitted to the Office in the prior application, and, in accordance with 37 CFR §1.98(d), copies of references A1-A14, B1-B12, B14-B19, C1-C4 are not enclosed, but

will be provided upon request. The remaining reference B13 cited on the PTO Form 1449 was cited in a Canadian Search Report dated July 8, 2002 during the prosecution of CA 2,160,548, which corresponds to the above-referenced application, and is enclosed.

This statement is not to be interpreted as a representation that the cited publications are material, that an exhaustive search has been conducted, or that no other relevant information exists. Nor shall the citation of any publication herein be construed *per se* as a representation that such publication is prior art. Moreover, Applicant understands that the Examiner will make an independent evaluation of the cited publications.

Under 37 CFR § 1.97(b)(3), no additional costs are believed to be due in connection with the filing of this disclosure. If, however, a first Office Action on the merits issues in this application bearing a mailing date prior to the date of this Information Disclosure Statement, please charge the appropriate fee as required under 37 CFR §1.17(p) to our Deposit Order Account No. 12-0080.

Respectfully submitted,
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GAD/PCL/DJM/JMS/alf

APPLICANT FACSIMILE OF FORM PTO-1449 REV 7-80 — U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE	ATTY DOCKET NO	SERIAL NO.
LIST OF PUBLICATIONS CITED BY APPLICANT (Use several sheets if necessary)	CPI-004DVCP3CN	09/608890
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U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	A1	5,405,941	04/95	Johnson	530	350	

FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES	TRANSLATION NO
	A2	WO 94/24159	10/94	WO				
	A3	WO 95/28421	10/95	WO				

OTHERS (Including Author, Title, Date, Pertinent Pages, Etc.)

	A4		Blank, J L., *et al* . "Molecular Cloning of Mitogen-activated Protein/ERK Kinase Kinases (MEKK) 2 and 3" *J. Biol. Chem.*, vol. 271, no. 10, 5361-5368 (1996);
	A5		Blumer, K.J., *et al* , "Mammalian Mitogen-Activated Protein Kinase Kinase Kinase (MEKK) can Function in a Yeast Mitogen-Activated Protein Kinase Pathway Downstream of Protein Kinase C," *Proc Natl. Acad. Sci. USA*, vol. 91, 4925-4929 (1994);
	A6		Burbelo, P.D., *et al* "A Conserved Binding Motif Defines Numerous Candidate Target Proteins for Both Cdc42 and Rac GTPases," *J. Biol. Chem.*, vol. 270, no 49, 29071-29074 (1995);
	A7		Büscher, D., *et al.*, "Ras-Dependent and-Independent Pathways Target the Mitogen-Activated Protein Kinase Network in Macrophages," *Mol Cell Biol.*, vol. 15, 466-475 (1995).
	A8		Chaleff, D.T and K Tatchell, "Molecular Cloning and Characterization of the STE7 and STE11 Genes of Saccharomyces cerevisiae," *Mol. Cell. Biol.*, vol. 5, 1878-1886 (1985);
	A9		Crews, C.M., *et al.*, "The Primary Structure of MEK, a Protein Kinase that Phosphorylates the ERK Gene Product," *Science*, vol. 258, 478-480 (1992);
	A10		Dent, P., *et al.*, "Activation of Mitogen-Activated Protein Kinase Kinase by v-Raf in NIH 3T3 Cells and in Vitro," *Science*, vol. 257, 1404-1407 (1992).
	A11		Dérijard, B., *et al.*, "Independent Human MAP Kinase Signal Transduction Pathways Defined by MEK and MKK Isoforms," *Science*, vol. 267, 682-685 (1995);
	A12		Gardner, A M., *et al* , "MEK-1 Phosphorylation by MEK Kinase, Raf, and Mitogen-activated Protein Kinase Analysis of Phosphopeptides and Regulation of Activity," *Molecular Biology of the Cell*, vol. 5, 193-201 (1994).
	A13		Gardner A M. *et al* , "Activation of Mitogen-activated Protein Kinase/Extracellular Signal-regulated Kinase Kinase by G. Protein and Tyrosine Kinas Oncoproteins" *J Biol. Chem.*, vol 268, no. 2417896-17901 (1993)
	A14		Johnson, N.L. *et al.* "Signal Transduction Pathways Regulated by Mitogen-activated/Extracellular Response Kinase Kinase Kinase Induce Cell Death," *J. Biol. Chem.*, vol. 271, no. 6, 3229-3237 (1996);

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EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

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OTHERS (including Author, Title, Date, Pertinent Pages, Etc.)

	B1		Johnson G.L *et al*., "How Does the G Protein, Gi2 Transduce Mitogenic Signals?", *J. Cellular Chem.*, vol. 54, no 4, 415-422 (1994)
	B2		Kyriakis, J M., *et al*., "Raf-1 Activates MAP Kinase-kinase," *Nature*, vol. 358, 417-421 (1992);
	B3		Lange-Carter, C.A. and G.L. Johnson, "Ras-Dependent Growth Factor Regulation of MEK Kinase in PC12 Cells," *Science*, vol 265, 1458-1461 (1994);
	B4		Lange-Carter, C.A , *et al*., "A Divergence in the MAP Kinase Regulatory Network Defined by MEK Kinase and Raf," *Science*, vol. 260, 315-319 (1993);
	B5		Lin, A., *et al*., "Identification of a Dual Specificity Kinase that Activates the Jun Kinases and p38-Mpk2." *Science*, vol. 268, 286-290 (1995),
	B6		MacDonald, S.G *et al*., "Reconstitution of the Raf-1-MEK-ERK Singal Transduction Pathway In Vitro," *Mol. Cell. Biol.*, Vol. 13, No. 11, 6615-6620 (1993),
	B7		Marshall, C.J., "MAP Kinase Kinase Kinase, MAP Kinase Kinase and MAP Kinase," *Current Opinion in Genetics and Development*, vol. 4, 82-89 (1994);
	B8		Masuda, T., *et al* , "Protein Kinase Byr2 Is a Target of Ras1 in the Fission Yeast *Schizosaccharomyces pombe*," *J. Biol Chem.*, vol. 270, no 5, 1979-1982 (1995);
	B9		Minden, A., *et al*., "Differential Activation of ERK and JNK Mitogen-Activated Protein Kinases by Raf-1 and MEKK," *Science*, vol. 266, 1719-1723 (1994),
	B10		Minden, A., *et al* , "Selective Activation of the JNK Signaling Cascade and c-Jun Transcriptional Activity by the Small GTPases Rac and Cdc42Hs," *Cell*, vol. 81, 1147-1157 (1995);
	B11		Neiman A.M., "Conservation and Reiteration of a Kinase Cascade", *Trends In Genetics*, vol. 9, No. 11, 390-395 (1993)
	B12		Reuter, C.W.M., *et al* , "Biochemical Analysis of MEK Activation in NIH3T3 Fibroblasts," *J Biol Chem.*, vol. 270, no. 13, 7644-7655 (1995),
	B13		Rhodes, N , *et al* , "STE11 is a protein kinase required for cell-type-specific transcription and signal transduction in yeast," *Genes & Development* vol. 4, 1862-1874 (1990);
	B14		Russell, M., *et al* , "Direct Interaction Between Ras and the Kinase Domain of Mitogen-activated Protein Kinase Kinase Kinase (MEKK1)," *J. Biol. Chem* , vol. 270, no. 20, 11757-11760 (1995);
	B15		Sanchez, I., *et al*., "Role of SAPK/ERK Kinase-1 in the Stress-Activated Pathway Regulating Transcription Factor c-Jun," *Nature*, vol. 372, 794-798 (1994),
	B16		Ueki, K , *et al*., "Feedback Regulation of Mitogen-activated Protein Kinase Kinase Kinase Activity of c-Raf-1 by Insulin and Phorbol Ester Stimulation," *J. Biol. Chem.*, vol. 269, no 22, 15756-15761 (1994);
	B17		Wang, Y , *et al*., "*byr2*, a *Schizosaccharomyces pombe* Gene Encoding a Protein Kinase Capable of Partial Suppression of the *ras1* Mutant Phenotype," *Mol. Cell. Biol.*, vol. 11, no. 7, 3554-3563 (1991);
	B18		Whitehurst, C.E., *et al*., "The MEK Kinase Activity of the Catalytic Domain of Raf-1 is Regulated Independently of Ras Binding in T Cells," *J. Biol. Chem* , vol. 270, no. 10, 5594-5599 (1995);
	B19		Winston, B.W., *et al*., "Tumor Necrosis Factor α Rapidly Activates the Mitogen-Activated Protein Kinase (MAPK) Cascade in a MAPK Kinase Kinase-dependent, c-Raf-1-independent Fashion in Mouse Macrophages," *Proc. Natl. Acad. Sci. USA*, vol. 92, 1614-1618 (1995);

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	C1		Xia, Z., *et al.*, "Opposing Effects of ERK and JNK-p38 MAP Kinases on Apoptosis," *Science*, vol. 270, 1326-1331 (1995);
	C2		Yan, M., and D. Templeton, "Identification of 2 Serine Residues of MEK-1 that are Differentially Phosphorylated During Activation by raf and MEK Kinase," *J Biol. Chem.*, vol 269, no. 29, 19067-19073 (1994).
	C3		Yan, M., *et al.*, "Activation of Stress-Activated Protein Kinase by MEKK1 Phosphorylation of its Activator SEK1," *Nature*, vol. 372, 798-800 (1994);
	C4		Zheng, C and K.-L.Guan, "Activation of MEK Family Kinases Requires Phosphorylation of Two Conserved Ser/Thr Residues," *EMBO J.*, vol. 13, no. 5, 1123-1131 (1994).

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